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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,412	07/21/2001	Itzhak Gurantz	9202	2398

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EXAMINER

CHOWDHURY, SUMAIYA A

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/910,412	GURANTZ ET AL.	
	Examiner	Art Unit	
	Sumaiya A. Chowdhury	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-5, 7-9, 11-12, and 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Carhart (6,622,304).

Considering claim 1, Carhart discloses a network interface device (splitter reflector 25 – Fig. 2) connected to building wiring (coaxial cable 23 – Fig. 2, col. 8, lines 18-22), the building wiring comprising a point of entry (coaxial cable drop 24 – Fig. 2) and a plurality of branches connected to terminal devices (communications station 22 & central computing apparatus 21 – Fig. 2) for creating a signal distribution system (system 20 - Fig. 2, col. 8, lines 55-61) comprising

a first port (port 34 – Fig. 3, col. 9, lines 30-36) connected to the point of entry side of a branch of the building wiring;

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a second port (port 35 – Fig. 3, col. 9, lines 60-63) connected to the terminal device side of a branch of the building wiring;

and a signal reflecting circuit (splitter reflector 25 – Fig. 2 & 3, col. 9, lines 9-14 & lines 30-35, col. 14, lines 66-67, col. 15, lines 1-10) connected between the first and second port.

Considering claim 5, Carhart discloses a signal distribution network (system 20 – Fig. 2, col. 8, lines 55-61) for transmitting modulated signals (col. 11, lines 9-12, col. 13, lines 58-66, col. 14, lines 23-26) using building wiring (coaxial cable 23) containing a plurality of branches comprising

a network interface device (splitter reflector 25 – Fig. 2) that couples network signals originating in the building wiring back into the building wiring (col. 9, lines 9-14, col. 14, lines 66-67, col. 15, lines 1-10);

at least one signal splitter (splitter reflector 25 – Fig. 2); and

a plurality of terminal devices (communications station 22 & central computing apparatus 21 – Fig. 2).

Considering claim 11, Carhart discloses a signal distribution network for transmitting modulated signals (col. 11, lines 9-17, col. 13, lines 58-66, col. 14, lines 23-26) using building wiring (coaxial cable 23 – Fig. 2) comprising

at least one signal splitter (splitter reflector 25 – Fig. 2); and

at least one frequency dependent signal coupling element (high pass filter 33 – Fig. 3) connected to a signal splitter (splitter 32 – Fig. 3; The high pass filter (33) is frequency dependent, allowing only signals over a selected cutoff frequency to pass through; - col. 10, lines 8-15); and

a plurality of terminal devices (communications station 22 & central computing apparatus 21 – Fig. 2) connected to signal splitters (col. 9, lines 5-15).

Considering claim 4, Carhart discloses the network interface device wherein the signal reflecting circuit comprises a splitter (31,32) with a first tap port (port connected to splitter (31) towards the bottom right splitter (32)), a second tap port (port connected to splitter (31) towards low pass filter (30)) and a common port (port connected to splitter (31) towards the top right splitter (32)), wherein the power at the first and second tap ports is coupled bi-directionally to the common port;

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the common port connected to a branch of building wiring (The port connected to splitter (31) towards the top right splitter (32) is connected to splitter (32) which is connected to output port (35), which is attached to coaxial cable (23). – col. 9, lines 30-35 & lines 5-10);

a first filter (high pass filter 33 – Fig. 3) for separating bands of frequencies connected to the first tap port (High pass filter (33) is connected to splitter (32) which is connected to the first tap port in splitter (31). – col. 9, lines 51-56, col. 10, lines 8-12);

means (30-32) for reflecting signal energy connected to the first filter (col. 10, lines 6-18);

and a second filter (low pass filter 30 – Fig. 3) for separating band of frequencies connected between the second tap port and the point of entry (port 34 – Fig. 3; col. 9, lines 35-43).

Considering claims 7 and 14, Carhart discloses the signal distribution network, wherein the building wiring is coaxial cable (col. 8, lines 18-20 & lines 58-61).

Considering claim 8, Carhart discloses the signal distribution network, wherein the network interface device (splitter reflector 25 – Fig. 2) is located at the point of entry (coaxial cable drop 24 – Fig. 2) of the building wiring (23 – Fig. 2, The reflector (25) is

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connected to the CATV System (10) through coaxial cable drop (24). The reflector (25) has an input port (34) connected to the coaxial cable drop (24) through which the CATV cable signals enter. – col. 9, lines 30-37).

Considering claim 9, Carhart discloses the signal distribution network, wherein the network interface device (splitter reflector 25 – Fig. 2) is frequency dependent and couples signals by reflecting a predetermined frequency band of signals (The reflector (25) comprises of filters which allow signals of selected frequencies to pass through. The signals which do not comply with the cutoff frequency are reflected. The filters and splitters in reflector (25) are bidirectional, as can be seen in Fig. 3. As a result, signals are coupled and outputted to port (35). - col. 9, lines 30-38 & lines 60-67, col. 10, lines 3-18).

Considering claim 12, Carhart discloses the signal distribution network, wherein the frequency dependent signal coupling element (high pass filter 33) reflects a predetermined frequency band of signals (The high pass filter (33) is frequency dependent, reflecting signals below a selected cutoff frequency; - col. 10, lines 8-15).

Considering claim 15, Carhart discloses the signal distribution network, wherein the frequency dependent signal coupling element is located at the point of entry of the building wiring (High pass filter (33) is located in reflector (25) which is located at the

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point of entry of the building wiring where signals from the CATV system are received. –
col. 9, lines 30-36)

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in
view of Boesch (5,969,582).

Considering claim 2, Carhart fails to disclose that the signal reflecting circuit
comprises a parallel resonant circuit.

In an analogous art, Boesch discloses a system in which a parallel resonant
circuit is implemented to reflect the energy. The resonant frequency of a parallel
resonant circuit is the frequency at which the parallel impedance is maximum, thus
allowing the signal to be effectively reflected. – col. 4, lines 63-67 & col. 5, lines 1-5.

It would have been obvious to one of ordinary skill in the art at the time of
applicant's invention to modify Carhart's system to include a parallel resonant circuit in

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the signal reflecting circuit, as taught by Boesch, for the advantage of reflecting energy such that terminal devices could transmit/receive messages.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of O'Shea (4,933,745).

Considering claim 3, Carhart fails to disclose the network interface device wherein the signal reflecting circuit comprises a series resonant circuit.

In an analogous art, O'Shea discloses a system in which a series resonant circuit is implemented to reflect the energy. The resonant frequency of a series resonant circuit is the frequency at which the series impedance is a minimum, thus allowing the signal to be effectively reflected. - col. 5, lines 1-10

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include a series resonant circuit in the signal reflecting circuit, as taught by O'Shea, for the advantage of reflecting energy such that terminal devices could transmit/receive messages.

4. Claims 6, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Langlais (6,091,932)

Considering claims 6, 13 and 16, Carhart fails to disclose the signal distribution network, wherein the signal modulation is orthogonal frequency division multiplexing.

In an analogous art, Langlais discloses a transmission system in which OFDM is employed to provide increased robustness against frequency selective fading or narrowband interference. – col. 10, lines 55-58.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include orthogonal frequency division multiplexing as the desired type of signal modulation, as taught by Langlais, for the advantage of providing a more robust communication technique for distributing signals.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Paul (6,381,745).

Considering claim 10, Carhart discloses the signal distribution network, wherein the network interface device is direction dependent and couples signals by power summing signals from at least two branches (The network interface device (25) is direction dependent and couples signals. For instance in Fig. 3, the signal outputted onto port 35 could be a signal coupled from high pass filter (33) and splitter (31) – col. 9, lines 51-58). However, Carhart fails to disclose that the signals are coupled by a power summer.

In an analogous art, Paul discloses a system in which a combiner (113 – Fig. 1) which combines at least two signals is applied to provide the advantage of supplying a single composite output signal – col. 4, lines 19-35.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include a combiner which combines at least two signals, as taught by Paul, for the advantage of supplying a single composite output signal.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Margulis (2001/0021998)

Considering claim 17, Carhart fails to disclose that the signal distribution network uses code division multiplex for signal modulation.

In an analogous art, Margulis discloses a system in which code division multiplex is implemented – paragraph 0055, 0063, and 0070.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include code division multiplex, as taught by Margulis, for the advantage of providing high user capacity and protection from interference from other signals.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart in view of Langlais as applied to claim 16 above, and further in view of Horton (6,788,707).

Considering claim 18, Carhart discloses a signal distribution network wherein terminal devices communicate with each other. However, he fails to disclose that the terminal devices communicate with each other using time division duplex protocol.

In an analogous art, Horton discloses a cable network in which Time Division Multiple Access (TDMA) is implemented to facilitate communication in both the upstream and downstream direction – col. 4, lines 9-16.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carhart's system to include TDMA, as taught by Horton, for the advantage of facilitating communications between devices wherein a single frequency supports simultaneous data channels.

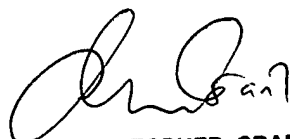
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumaiya A. Chowdhury whose telephone number is (571) 272-8567. The examiner can normally be reached on Mon-Fri, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAC



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